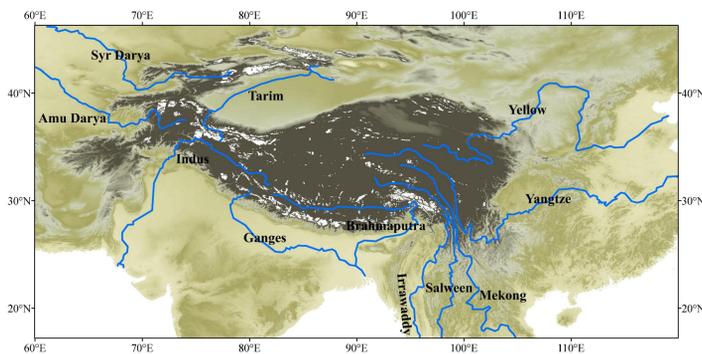


# Third Pole Regional Climate Center-Network

## Delivering Climate Services for the Asian High Mountain Region

### 1 Risks & Urgent needs

The Third-Pole Region, spans an area of more than 4.3 million square kilometres. Due to its size, altitude and the large cryospheric reserves, the Third Pole is a major engine of global weather and climate. The region has been experiencing dramatic climatic and environmental changes, most countries in the Third Pole have been classified as having an “extreme” or “very high” risk to climate variability and climate change.



Geographical coverage of the Third Pole

- Rapid warming and shrinking cryosphere highlighted issue of water resources
- Impacts on population and ecosystem services in and downstream of the Asian high mountain areas
- Urgent need for timely provision of high quality climate information and early warning to manage risks: **GLOFs, debris flow, flash floods, and other environmental disasters**



### 2 Regional Climate Centre: Vision & Structure

**WMO Regional Climate Centers(RCCs)** are Centers of Excellence that create regional products including long-range forecasts that support regional and national climate activities, and thereby strengthen the capacity of WMO Members in a given region to deliver better climate services to national users.

**Third Pole RCC Network (TPRCC-N)** initiated since 2017 to meet the needs of the countries in providing accurate and effective climate services with specific focus on cryospheric aspects. Structure of TPRCC-N approved by EC-70, with the guidance of GCW, EC-PHORS STT, CCI, CBS and RA II. China has taken the responsibility for the overall coordination of this network.



Structure of TPRCC-N



Implementation Plan meeting of TPRCC-N (13-14, December 2018, Beijing)

#### TPRCC-N Vision: Sharing climate information and knowledge through regional cooperation for better climate services

- ❖ user-oriented and fit-for-purpose climate products and information services
- ❖ specific cryosphere monitoring , prediction for risk management
- ❖ Transitioning research on key climate-water-environment related scientific issues into operational practice for climate risk management and adaptation

### 3 Services & Challenges

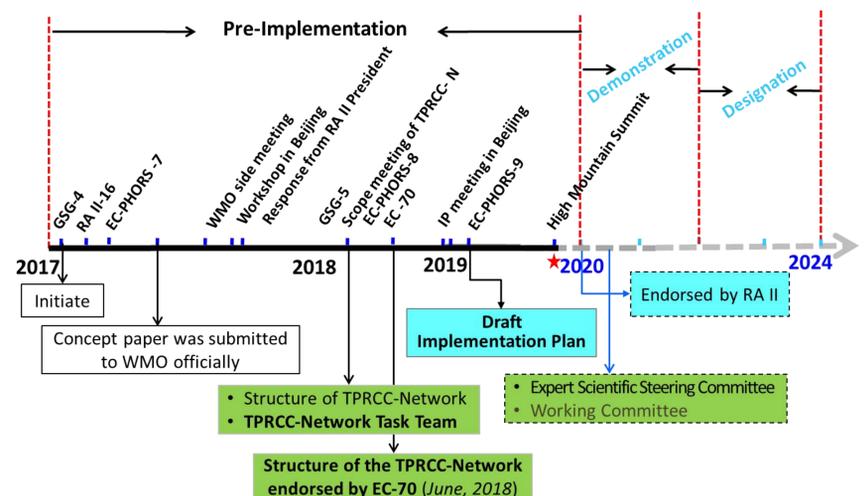
Services	Gaps	Approach
<b>Climate Data Service</b>	<ul style="list-style-type: none"> <li>• Sparse and discontinuous ground-based observations</li> <li>• Observational bias towards low-elevation and rare observations at higher elevation</li> <li>• Few long-term monitoring programs comprising meteorological, hydrological and glaciological data</li> </ul>	<ul style="list-style-type: none"> <li>• Ground and Space based Integrated Observing Strategy to create a framework</li> <li>• Strengthen national and international cooperation for cryospheric observations &amp; informations</li> <li>• Facilitate generation and exchange of data for operational services and research</li> </ul>
<b>Climate Monitoring</b> (Tem, Pre, Extremes, Cryospheric elements)	<ul style="list-style-type: none"> <li>• Low accuracy of monitoring products inapplicable for users in the Asian high mountain region</li> <li>• Limited operational capability for specific cryosphere monitoring and assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement of precision of satellite monitoring products through calibration of ground-based observations</li> <li>• Transforming cryospheric research achievements and innovation into operational services</li> </ul>
<b>Climate Prediction</b>	<ul style="list-style-type: none"> <li>• Reliability and Accuracy</li> <li>• Assessment of climate change vulnerability</li> <li>• Knowledge gap in climate variability and predictability in the Asian High Mountain region</li> </ul>	<ul style="list-style-type: none"> <li>• Development of new modelling approach to address the TP complexity</li> <li>• Warning tools and risk assessment of cryosphere-related disasters</li> <li>• Strengthen the trans-national collaboration</li> </ul>

#### Concerns of TPRCC-N to the Summit:

- ❑ Data sharing in the Asian High Mountain region through GTS and GCW data portal, in the framework of WMO
- ❑ Initiatives in supporting development of climate and cryosphere modelling, so as to manage climate risks in high mountain regions
- ❑ Ways of bridging scientific communities and operational entities to address gaps between scientific research and operational capability
- ❑ Policy and financial mechanisms to enable sustainable deliveries of mountain specific climate services

### 4 Way Forward

#### Roadmap and Timeline of TPRCC-N :



- ❖ Jan.2020 - Commencement of the Demonstration Phase under auspices of EC-PHORS
- ❖ From 2024 - Operational Phase

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